

Amendments to the Claims

The following listing of claims will replace all prior versions and/or listings of claims in the application:

Listing of Claims:

1-4402. (cancelled)

4403. (currently amended): A condensable mixture produced from a portion of a hydrocarbon containing formation, comprising:

olefins, wherein about 0.1 % by weight to about 15 % by weight of the condensable mixture comprises olefins;

oxygenated hydrocarbons, wherein less than about 15 % by weight of the condensable mixture comprises oxygenated hydrocarbons; and

asphaltenes, wherein less than about 0.1 % by weight of the condensable mixture comprises asphaltenes; and

wherein the condensable mixture has a hydrogen to carbon atomic ratio of at least 1.7.

4404. (original): The mixture of claim 4403, wherein the condensable mixture further comprises hydrocarbons having a carbon number of greater than approximately 25, and wherein less than about 15 weight % of the hydrocarbons in the mixture have a carbon number greater than approximately 25.

4405. (original): The mixture of claim 4403, wherein about 0.1 % by weight to about 5 % by weight of the condensable mixture comprises olefins.

4406. (original): The mixture of claim 4403, wherein the condensable mixture further comprises non-condensable hydrocarbons, wherein the non-condensable hydrocarbons comprise ethene and ethane, and wherein a molar ratio of ethene to ethane in the non-condensable

hydrocarbons ranges from about 0.001 to about 0.15.

4407. (previously presented): The mixture of claim 4403, wherein the condensable mixture further comprises nitrogen containing compounds, and wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable mixture is nitrogen.

4408. (previously presented): The mixture of claim 4403, wherein the condensable mixture further comprises oxygen containing compounds, and wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable mixture is oxygen.

4409. (previously presented): The mixture of claim 4403, wherein the condensable mixture further comprises sulfur containing compounds, and wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable mixture is sulfur.

4410. (original): The mixture of claim 4403, wherein the condensable mixture further comprises oxygen containing compounds, wherein about 5 % by weight to about 30 % by weight of the condensable mixture comprise oxygen containing compounds, and wherein the oxygen containing compounds comprise phenols.

4411. (original): The mixture of claim 4403, wherein the condensable mixture further comprises aromatic compounds, and wherein greater than about 20 % by weight of the condensable mixture are aromatic compounds.

4412. (original): The mixture of claim 4403, wherein the condensable mixture further comprises multi-ring aromatics, and wherein less than about 5 % by weight of the condensable hydrocarbons comprises multi-ring aromatics with more than two rings.

4413. (original): The mixture of claim 4403, wherein the condensable mixture further comprises cycloalkanes, and wherein about 5 % by weight to about 30 % by weight of the condensable mixture are cycloalkanes.

4414. (previously presented): The mixture of claim 4403, wherein the condensable mixture comprises non-condensable hydrocarbons, and wherein the non-condensable hydrocarbons comprise molecular hydrogen, and wherein the molecular hydrogen is greater than about 10 % by volume of the non-condensable hydrocarbons at 25 °C and one atmosphere absolute pressure, and wherein the molecular hydrogen is less than about 80 % by volume of the non-condensable hydrocarbons at 25 °C and one atmosphere absolute pressure.

4415. (original): The mixture of claim 4403, further comprising ammonia, and wherein greater than about 0.05 % by weight of the produced mixture is ammonia.

4416. (original): The mixture of claim 4403, further comprising ammonia, and wherein the ammonia is used to produce fertilizer.

4417. (original): The mixture of claim 4403, wherein about 0.1 % by weight to about 2 % by weight of the condensable mixture comprises olefins.

4418. (currently amended): A condensable mixture produced from a portion of a hydrocarbon containing formation, comprising:

olefins, wherein about 0.1 % by weight to about 2 % by weight of the condensable mixture comprises olefins;

multi-ring aromatics, wherein less than about 2 % by weight of the condensable mixture comprises multi-ring aromatics with more than two rings; and

oxygenated hydrocarbons, wherein greater than about 25 % by weight of the condensable mixture comprises oxygenated hydrocarbons; and

wherein the condensable mixture has a hydrogen to carbon atomic ratio of at least 1.7.

4419. (original): The mixture of claim 4418, further comprising hydrocarbons having a carbon number of greater than approximately 25, wherein less than about 5 weight % of the hydrocarbons in the mixture have a carbon number greater than approximately 25.

4420. (previously presented): The mixture of claim 4418, wherein the condensable mixture further comprises nitrogen containing compounds, and wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable hydrocarbons is nitrogen.

4421. (previously presented): The mixture of claim 4418, wherein the condensable mixture further comprises oxygen containing compounds, and wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable hydrocarbons is oxygen.

4422. (previously presented): The mixture of claim 4418, wherein the condensable mixture further comprises sulfur containing compounds, and wherein less than about 1 % by weight, when calculated on an atomic basis, of the condensable hydrocarbons is sulfur.

4423. (original): The mixture of claim 4418, wherein the condensable mixture further comprises oxygen containing compounds, wherein about 5 % by weight to about 30 % by weight of the condensable hydrocarbons comprise oxygen containing compounds, and wherein the oxygen containing compounds comprise phenols.

4424. (original): The mixture of claim 4418, wherein the condensable mixture further comprises aromatic compounds, and wherein greater than about 20 % by weight of the condensable mixture are aromatic compounds.

4425. (original): The mixture of claim 4418, wherein the condensable mixture further comprises condensable hydrocarbons, and wherein less than about 0.3 % by weight of the condensable hydrocarbons are asphaltenes.

4426. (original): The mixture of claim 4418, wherein the condensable mixture further comprises cycloalkanes, and wherein about 5 % by weight to about 30 % by weight of the condensable hydrocarbons are cycloalkanes.

4427. (original): The mixture of claim 4418, further comprising ammonia, wherein greater than about 0.05 % by weight of the produced mixture is ammonia.

4428. (original): The mixture of claim 4418, further comprising ammonia, wherein the ammonia is used to produce fertilizer.

4429-5395. (cancelled)

5396. (previously presented): A condensable mixture produced from a portion of a hydrocarbon containing formation, comprising:

olefins, wherein about 0.1 % by weight to about 15 % by weight of the condensable mixture comprises olefins;

oxygenated hydrocarbons, wherein less than about 15 % by weight of the condensable mixture comprises oxygenated hydrocarbons;

multi-ring aromatics, wherein less than about 2 % by weight of the condensable mixture comprises multi-ring aromatics with more than 2 rings; and

wherein the hydrocarbons of the condensable mixture have a hydrogen to carbon atomic ratio of greater than about 1.7.

5397. (previously presented): The condensable mixture of claim 5396, wherein the oxygenated hydrocarbons comprise phenols.

5398. (previously presented): The condensable mixture of claim 5396, wherein the condensable mixture comprises nitrogen containing compounds.

5399. (previously presented): The condensable mixture of claim 5396, wherein the condensable mixture comprises sulfur containing compounds.

5400. (previously presented): The condensable mixture of claim 5396, wherein less than 5% by weight of the condensable mixture comprises olefins.

Amendments to the Drawings

The attached nine (9) sheets of formal drawings include changes to FIGS. 23a, 23b, 32, 56, 57, 67, 68, 72, 73, 76, 81a, and 97 approved by the Examiner. These sheets replace the original sheets including the same figures.

Attachment: Replacement Sheets